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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/635,067

08/05/2003

Jie Liang

TI-35033

1319

23494 7590 06/07/2007
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EXAMINER

NGUYEN, KHAI MINH

ART UNIT

PAPER NUMBER

2617

NOTIFICATION DATE

DELIVERY MODE

06/07/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/635,067

Applicant(s)

LIANG ET AL.

Examiner

Khai M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's argument with respect to claim 1-31 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awater et al. (U.S.Pat-7046649) in view of Kim (U.S.Pub-20020107033).

Regarding claim 1, Awater teaches a device (fig.1) comprising:

a first antenna (fig.1, IEEE 802.11(transceiver), abstract);

a second antenna (fig.1, Bluetooth (transceiver), abstract);

a first wireless telecommunications function communicatively coupled to the antenna switching function (fig.1-2, interoperability device (switching)) (fig.1-2, col.3, line 10 to col.4, line 60);

a second wireless telecommunications function communicatively coupled to the antenna switching function (fig.1-2, interoperability device (switching)) (fig.1-2, col.3, line 10 to col.4, line 60); and

Awater fails to specifically disclose an antenna switching function communicatively coupled to the first and second antennas capable of providing diversity capabilities; and an arbitration function, communicatively coupled to the antenna switching function and the first and second wireless telecommunications functions, and adapted to directly control the first and second wireless telecommunications functions and access to the first and second antennas by the first and second wireless telecommunications functions according to a defined prioritization scheme. However Kim teaches an antenna switching function communicatively coupled to the first and second antennas capable of providing diversity capabilities (fig.1 and 4, paragraph 0011, 0024-0025); and an arbitration function, communicatively coupled to the antenna switching function and the first and second wireless telecommunications functions (fig.1 and 4, paragraph 0011, 0024-0025), and adapted to directly control the first and second wireless telecommunications functions and access to the first and second antennas by the first and second wireless telecommunications functions according to a defined prioritization scheme (fig.1 and 4, paragraph 0011, 0024-0025). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Kim to Awater to provide a method for improving the compatibility receivers and cellular telephones.

Regarding claim 2, Awater and Kim further teach the device of claim 1, wherein either or both of the first or second wireless telecommunications functions may require simultaneous access to both the first (IEEE 802.11) and second antennas (Bluetooth)

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(see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 3, Awater and Kim further teach the device of claim 1, wherein the first wireless telecommunications function comprises a wireless LAN technology (see Awater, fig.1-2, IEEE 802.11 and Bluetooth, col.2, line 61 to col.3, line 6).

Regarding claim 4, Awater and Kim further teach the device of claim 3, wherein the wireless LAN technology comprises a wireless LAN according to IEEE 802.11g standards (see Awater, fig.1-2, IEEE 802.11).

Regarding claim 5, Awater and Kim further teach the device of claim 3, wherein the wireless LAN technology may require simultaneous access to both the first and second antennas (see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 6, Awater and Kim further teach the device of claim 1, wherein the second wireless telecommunications function comprises a Bluetooth wireless technology (see Awater, fig.1-2, Bluetooth).

Regarding claim 7, Awater and Kim further teach the device of claim 1, wherein the antenna switching function is implemented as an independent structure (see Awater, interoperability device (switching)) (see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 8, Awater and Kim further teach the device of claim 1, wherein the antenna switching function is integrated with the arbitration function (see Awater, interoperability device (switching)) (see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 9, Awater and Kim further teach the device of claim 1, wherein the arbitration function is implemented as an independent structure (see Awater, interoperability device (switching)) (see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 10, Awater and Kim further teach the device of claim 1, wherein the arbitration function is integrated with at least a portion of either the first or second wireless telecommunications functions (see Awater, interoperability device (switching)) (see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 11, Awater and Kim further teach the device of claim 1, wherein the arbitration function is adapted to control access by forcing radio silence at least one of the first or second wireless telecommunications functions (see Awater, interoperability device (switching)) (see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 12, Awater and Kim further teach the device of claim 1, wherein the defined prioritization scheme comprises an access contention function (see Awater, interoperability device (switching)) (see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 13, Awater and Kim further teach the device of claim 12, wherein one of the first or second wireless telecommunications functions is adapted to trigger the access contention function (see Awater, interoperability device (switching)) (see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 14, Awater teaches a method of providing simultaneous operation of disparate wireless telecommunication technologies within a single device, comprising the steps of:

providing a device having a plurality of antennas (fig.1, IEEE 802.11 and Bluetooth (transceivers), abstract);

providing a first wireless telecommunications function communicatively coupled to the antenna switching function (fig.1-2, interoperability device (switching)) (fig.1-2, col.3, line 10 to col.4, line 60);

providing a second wireless telecommunications function communicatively coupled to the antenna switching function (fig.1-2, interoperability device (switching)) (fig.1-2, col.3, line 10 to col.4, line 60);

providing an arbitration function communicatively coupled to the antenna switching function (fig.1-2, interoperability device (switching)) and the first and second wireless telecommunications functions (fig.1-2, col.3, line 10 to col.4, line 60);

providing a defined prioritization scheme (fig.1-2, col.3, line 10 to col.4, line 60);
and

Awater fails to specifically disclose providing an antenna switching function communicatively coupled to the plurality of antennas capable of providing diversity capabilities; and utilizing the arbitration function to directly control the first and second wireless telecommunications functions and access to the plurality of antennas by the first and second wireless telecommunications functions according to the defined prioritization scheme. However Kim teaches providing an antenna switching function communicatively coupled to the plurality of antennas capable of providing diversity capabilities (fig.1 and 4, paragraph 0011, 0024-0025); and utilizing the arbitration function to directly control the first and second wireless telecommunications functions (fig.1 and 4, paragraph 0011, 0024-0025) and access to the plurality of antennas by the first and second wireless telecommunications functions according to the defined prioritization scheme (fig.1 and 4, paragraph 0011, 0024-0025). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Kim to Awater to provide a method for improving the compatibility receivers and cellular telephones.

Regarding claim 15, Awater and Kim further teach the method of claim 14, wherein the antenna switching function allocates access to an antenna by the first or second wireless telecommunications function under control of the arbitration function (see Awater, interoperability device (switching)) (see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 16 is rejected with the same reasons set forth in claim 2.

Regarding claim 17 is rejected with the same reasons set forth in claim 3.

Regarding claim 18 is rejected with the same reasons set forth in claim 4.

Regarding claim 19 is rejected with the same reasons set forth in claim 5.

Regarding claim 20 is rejected with the same reasons set forth in claim 6.

Regarding claim 21, Awater and Kim further teach the method of claim 14, wherein the step of providing an arbitration function further comprises providing hardware implementing an arbitration function (see Awater, interoperability device (switching)) (see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 22, Awater and Kim further teach the method of claim 14, wherein the step of providing an arbitration function further comprises providing software implementing an arbitration function (see Awater, interoperability device (switching)) (see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 23, Awater and Kim further teach the method of claim 14, wherein the step of utilizing the arbitration function to control access further comprises utilizing the arbitration function to disable radio transmission of at least one of the first or second wireless telecommunications functions (see Awater, interoperability device

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(switching)) (see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 24, Awater and Kim further teach the method of claim 14, wherein the step of providing a defined prioritization scheme further comprises providing an access contention function (see Awater, interoperability device (switching)) (see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 25, Awater and Kim further teach the method of claim 24, wherein one of the first or second wireless telecommunications functions may initiate the access contention function (see Awater, interoperability device (switching)) (see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 26, Awater and Kim further teach the method of claim 24, wherein the step of providing an access contention function further comprises providing a bias mechanism (see Awater, interoperability device (switching)) (see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 27, Awater and Kim further teach the method of claim 26, wherein the step of providing a bias mechanism comprises providing a bias in favor of the first wireless telecommunications function (see Awater, interoperability device (switching)) (see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

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Regarding claim 28, Awater and Kim further teach the method of claim 26, wherein the step of providing a bias mechanism comprises providing a bias in favor of the second wireless telecommunications function (see Awater, interoperability device (switching)) (see Awater, fig.1-2, col.3, line 10 to col.4, line 60, see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 29, Awater and Kim further teach the method of claim 14, wherein the step of providing a defined prioritization scheme further comprises providing first priority to speech communications over one of the wireless telecommunications functions (see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 30, Awater and Kim further teach the method of claim 14, wherein the step of providing a defined prioritization scheme further comprises providing for simultaneous transmission by the first and second wireless telecommunications functions (see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Regarding claim 31, Awater and Kim further teach the method of claim 14, wherein the step of providing a defined prioritization scheme further comprises providing for simultaneous reception by the first and second wireless telecommunications functions (see Kim, fig.1 and 4, paragraph 0011, 0024-0025).

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 571.272.7923. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph feild can be reached on 571.272.4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Khai Nguyen
Au: 2617

5/15/2007


JOSEPH FEILD
SUPERVISORY PATENT EXAMINER